

Abstract of the Disclosure

A physical layer unit (PLU) for receiving (and transmitting) various signals, a wireless Local Area Network (LAN) system including the PLU, and a wireless LAN method using the wireless LAN system. The wireless LAN system is capable of 5 receiving signals of different standards, by performing a first preamble processing of an input signal for a predetermined first time period of $16 \mu s$ (the preamble processing time period according to an OFDM standard for determining whether the input signal corresponds to the OFDM standard), and performing a second preamble processing within a predetermined second time period (the remainder of a preamble processing 10 time period for determining whether the input signal corresponds to a DSSS/CCK standard), if the input signal does not correspond to the OFDM standard. Therefore, DSSS/CCK and OFDM signals can be transmitted and received reliably in the integrated wireless LAN system according to the IEEE 802.11.g standard.